Perspectives on Transforming DT and OT

Industry-Government Roundtable

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Roundtable

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Defense Systems Acquisition World Today

- Joint Capabilities (Jt. Cap. Integration & Development System, 3170.01C)
  - Assess as-is capability to contribute to future joint concepts

- Evolutionary Acquisition (5000)
  - Usable capability to warfighter – may lack full functionality
  - Increments and spirals
  - Emphasis on systems engineering

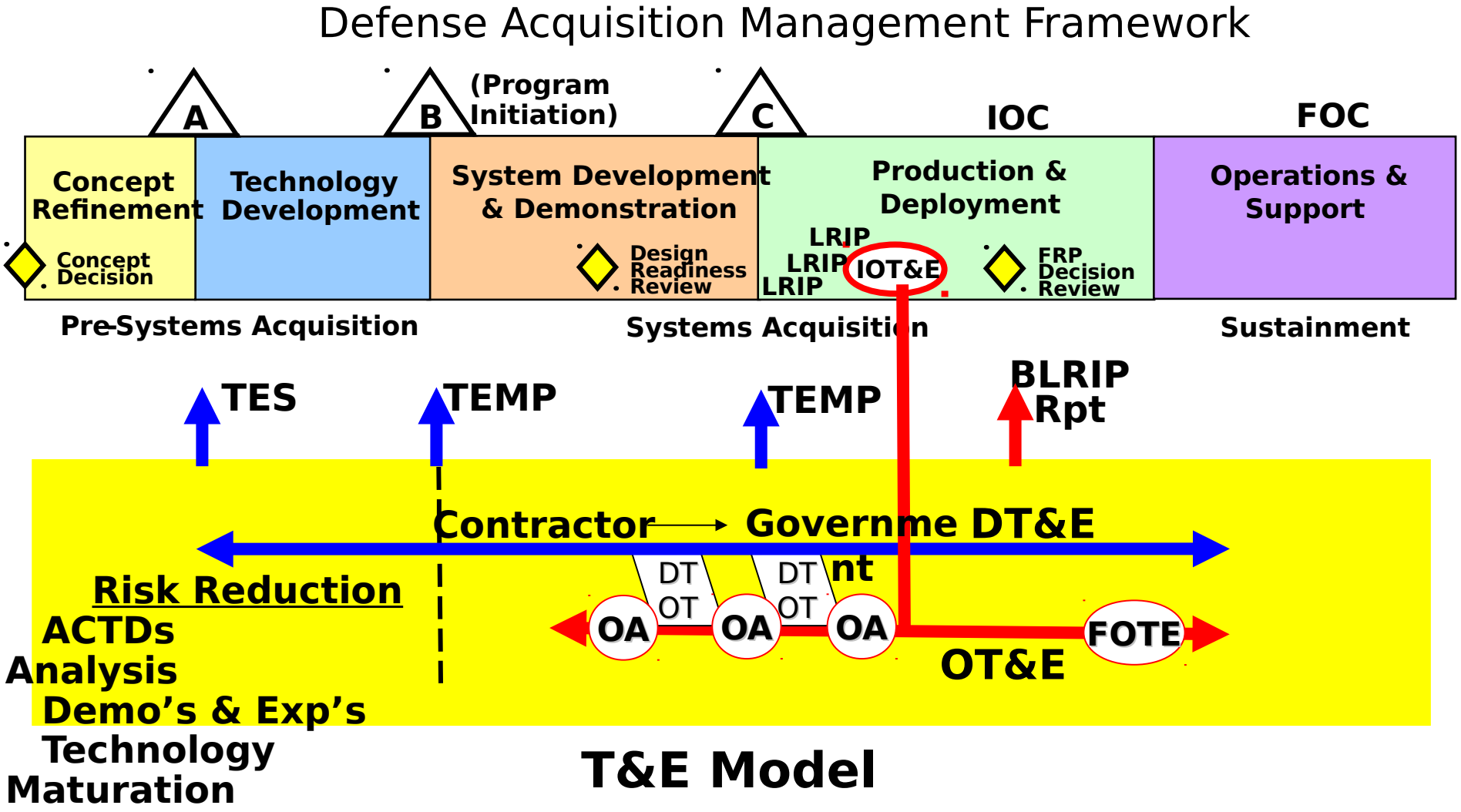
- Systems
  - More complex
  - Net-centric functionality

- PMs
  - Deliver capability
  - Within schedule & cost
  - Fix issues in next spiral

- S-o-S
  - Based on integrated architectures
  - Enable mission capabilities
  - "Net-Ready" KPP

- Users – Warfighters
  - Deployed, or training to deploy
  - Need better capability ASAP, to counter asymmetric threat
  - Scarce forces for OT

Today's Test Model

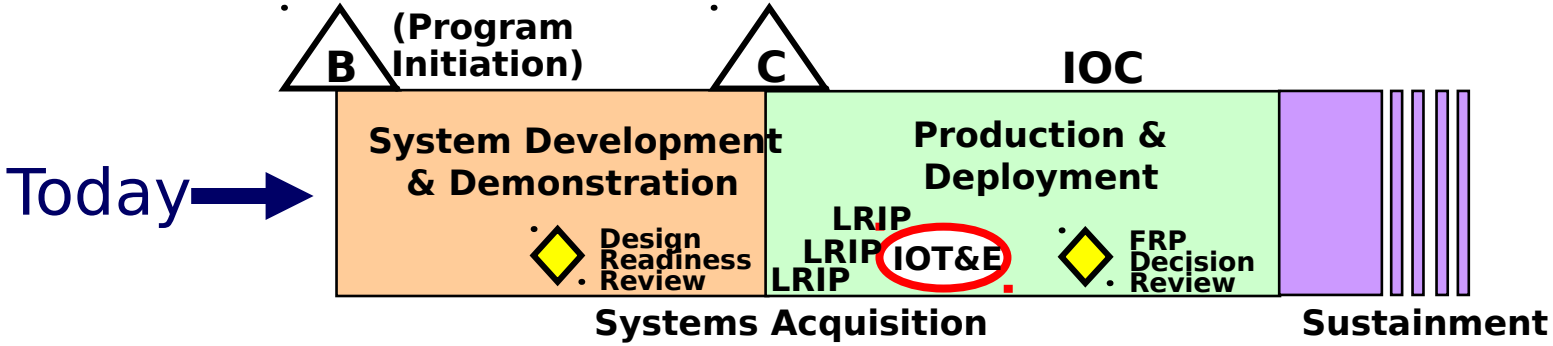


T&E Needs Transforming to Fit Today's Acquisition World

Areas to explore:

- IOT&E
- DT Integration with OT
- Mission Capability Testing
- JDEP
- M&S

Can We Make IOT&E Concept More Useful?



- IOT&E is now conducted after MS C and (often) multiple LRIPs.
- Is pass-fail event after MS C the best contribution?
- What type of OT or Evaluation needed before MS C?
- Do we need an independent test for an independent evaluation?
- Does a single pass-fail event make sense with today's spiral development?

Can DT Community Better Integrate with OT&E?

- More operationally realistic DT can offset need for subsequent OT
- Can DT include more realistic environments?
  - User representative operators?
  - Introduce simulated operational conditions earlier?
  - Connect S-o-S for sub-system level testing?
- Target DT objectives in OAs and FOT&Es?
- Is independent OT required prior to capability fielding?

How to Support S-o-S Mission Capability Decisions?

- Acquisition programs are stove-pipe funded by program
- Test data is system-centric (except for interoperability, which is largely unknown until MS C)
- Should we focus on joint mission capability testing, prior to milestone decisions?
  - But, PM does not control other S-o-S programs
  - And, PM is not funded for S-o-S testing

How to Mature JDEP? (Joint Distributed Engineering Plant)

- Shown to be an effective, value-added capability for A&MD
- Could be effective tool for joint S-o-S T&E across other mission areas
- Need long-term strategic plan to expand user base to other mission areas

How to Better Leverage M&S in Acquisition?

- Essential to assess early the joint mission capability of individual systems
- M&S can facilitate collaborative S-o-S engineering and test
- But, PM doesn't control other system M&S
- OSD examining approaches to enable collaborative S-o-S engineering processes with M&S

Recommendation

An independent study on Transforming T&E

- Defense Science Board, National Academy of Science, etc
- Consider today's T&E practices in the context of today's defense systems acquisition world
- A fresh outsider look at processes, tools, policies that could benefit defense systems acquisition & test